

REMARKS

This Amendment is in response to the Final Office Action mailed March 5, 2008. Claims 1-9, 11-14, 16-18 and 21-24 are pending in the application and are rejected. Applicant responds to the Office Action as follows.

Response to Objection to the Specification

The disclosure is objected to since in lines 1-2 of claim 23 “between opposed side” should read –between opposed sides--. Applicant has amended claim 23 to recite between opposed sides and withdrawal of the rejection is respectfully requested.

Response to Claim Rejections – 35 U.S.C. § 112

Claims 14, 17, 23-24 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Claims 14, 17 and 24 are rejected on the basis that “an adhesive portion filling the at least one aperture” is indefinite as it is misdescriptive of the disclosure, which teaches/ shows that the adhesive portion only partially fills the at least one aperture’. Claims 14, 17 and 24 as amended recite “an adhesive portion in the at least one aperture of the base”, which is believed proper under 35 U.S.C. §112. Withdrawal of the rejection under Section 112 is respectfully requested.

Claim 23 is rejected on the basis that the “composite structure” is indefinite because it lacks clear and/or positive antecedent basis. Claim 23 has been amended to recite the structure of claim 13, which is believed proper under 35 U.S.C. §112.

Response to Claim Rejections – 35 U.S.C. § 102

Claims 7 and 22 are rejected under 35 U.S.C. § 102(b) as being anticipated by Andress, U.S. Patent No. 5,757,580. Claims 7 and 22 as amended recite a base, a printed circuit board, a shield, a first adhesive portion filling a gap between the printed circuit board and the base to connect the printed circuit board to the base, and a second adhesive portion filling a gap between the printed circuit board and the shield to connect the shield to the printed circuit board

which is not taught nor suggested by Andress. Accordingly withdrawal of the rejection of claims 7 and 22 under 35 U.S.C. § 102(b) is respectfully requested.

Claims 1, 2, 4, 7-8, 13-14, 16, 22 and 24 are rejected under 35 U.S.C. §102(a) and/or 35 U.S.C §102(e) as being anticipated by Codilian, U.S. Patent No. 6,697,217.

Claim 1 and dependent claims 2 and 4 as amended recite a base including at least one aperture extending through the base between first and second sides of the base and an adhesive portion in the at least one aperture having a thickness that extends between the first and the second sides of the base and a width that extends between an edge surface of the at least one aperture of the base and the at least one raised circuit component to fill a space between the at least one raised circuit component and the edge surface of the at least one aperture of the base. On page 9, ¶ 11 of the Office Action, the Examiner acknowledges with respect to claims 21 and 23 that Codilian does not teach a base having at least one aperture extending through the base between the first and second sides of the base. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

Claims 7, 8, and 22 as amended recite *inter alia* a composite structure including a first adhesive portion filling a gap between a printed circuit board and a base, and a second adhesive portion filling a gap between the printed circuit board and a shield. On page 8, ¶ 10 of the Office Action, the Examiner acknowledges, with respect to claims 3 and 9, that Codilian does not teach a “shield fastened to an underside surface of the printed circuit board by another adhesive portion between the printed circuit board and the shield” and accordingly withdrawal of the rejection of claim 7, 8 and 22 under Section 102 is respectfully requested..

Claims 13-14, 16 and 24 as amended recite a structure comprising a base having a base portion having a base thickness of about 0.3 mm or less and at least one aperture and means for reinforcing the base portion to form a stiff support structure. As acknowledged on page 7, ¶ 9 of the Office Action, Codilian does not teach nor suggest a base thickness of about 0.3 mm or less and accordingly withdrawal of the rejection is respectfully requested.

Response to Claim Rejections – 35 U.S.C. § 103

Claims 5, 6, 11-12, 17-18 are rejected under 35 U.S.C. § 103 as being unpatentable over Codilian, U.S. Patent No. 6,697,217.

Claims 5, 6 and 18 are dependent upon amended claim 1. As discussed above, claim 1 as amended recites a base including at least one aperture extending through the base between the first side and the second side. As acknowledged in the Office Action, Codilian does not teach the at least one aperture extending through the base between the first side and the second side of the base (See page 9, ¶ 11 of the Office Action), nor an adhesive portion in the at least one aperture having a thickness that extends between the first and second sides of the base and a width that extends between an edge surface of the at least one aperture and the at least one raised circuit component as set forth in claim 1.

Amended claim 1 incorporates subject matter of claim 21. In the Office Action, the subject matter of claim 21 was rejected as being unpatentable over Codilian in view of Shirotori. In particular, on page 9, ¶ 11 of the Office Action, the Examiner states that Shirotori teaches at least one aperture extending through a base (e.g. motor housing 1) and that it would have been obvious to have the at least one aperture of Codilian extend through the base as taught by Shirotori.

The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) evidence of secondary considerations. Claim 1 recites an adhesive portion in the at least one aperture having a thickness that extends between the first and second sides of the base and a width that extends between an edge surface of the at least one aperture and the at least one raised circuit component. Shirotori teaches away from an adhesive portion in the at least one aperture as claimed. Col. 1, lines 30-45 of Shirotori explain that

FIGS. 5 and 6 . . . depict a motor . . . where a housing 1 of [a]the motor is formed with through holes 1a and 1b through which magnetic sensors 5 and 6 . . . project. . . [A]ir tight sealing material such as epoxy

resin 26 has been used to seal the magnetic-sensor-lead-wire holes 1a and 1b and the undersurface of a circuit board 19. However, there has arisen a problem that, once they are sealed in the manner described above, they cannot be disassembled in order to replace faulty circuit component parts.

Shirotori teaches away from an air tight sealing material such as epoxy resin 26 in holes 1a and 1b as shown in FIG. 5 in favor of covering holes 1a and 1b with an extremely thin resin sealing body 7 in such a way that the magnetic sensors 5 and 6 can be inserted into the through holes 1a and 1b as illustrated in FIGS. 1-2. (Shirotori, Col. 3, lines 5-12).

As affirmed by the Supreme Court in *KSR Int'l Co. v. Telflex, Inc.*, 127 S. Ct. 1727, 82 U.S.P.Q.2d 1385 (2007), prior art must be considered in its entirety, including portions that would lead away from the claimed invention. When considered in its entirety, Shirotori teaches an extremely thin resin sealing body 7 in through openings 1a and 1b and thus the combination of Shirotori and Codilian provides a coated printed circuit board assembly as disclosed in Condilian in combination with a thin resin sealing body 7 in through openings. The combination does not teach nor suggest the claimed subject matter as set forth in claim 1. Based upon the foregoing, withdrawal of the rejection of claims 5, 6, and 18 under 35 U.S.C. §103 is respectfully requested.

Rejected claims 11-12 are dependent upon amended claim 7. Claim 7 as amended recites a shield, a first adhesive portion filling a gap between the printed circuit board and the base and a second adhesive portion filling a gap between the printed circuit board and the shield. On page 8, ¶ 10 of the Office Action, the Examiner acknowledges that Codilian does not teach a “shield fastened to an underside surface of a printed circuit board by another adhesive portion”.

Claim 7 as amended incorporates subject matter of claim 3. In the Office Action claim 3 was rejected as being unpatentable over Codilian in view of Ojeda, U.S. Patent No. 6,958,884. In particular, on page 8, ¶ 10 of the Office Action, it states, with respect to claims 3 and 9, that Ojeda teaches a structure further comprising “a printed circuit board shield (includes 202, for instance, lines 13-14 in column 3, for instance) fastened to an underside surface (i.e. dependent upon viewer perspective) of a printed circuit board (4) by an adhesive portion (204)

between the printed circuit board and the shield". The Office Action concludes that it would have been obvious to a person having ordinary skill in the art to have had the structure of Codilian further comprising a printed circuit board shield fastened to an underside surface of the printed circuit board by an adhesive portion between the printed circuit board and shield as taught by Ojeda.

As previously discussed, obviousness is determined based upon an analysis of the scope and content of the prior art. The Office Action incorrectly analysis the scope and content of the prior art with respect to Ojeda. Specifically, Ojeda does not teach a printed circuit board shield (layer 202) fastened to an underside surface of a printed circuit board 4 by an adhesive portion (204). Ojeda discloses an acoustic damping shield assembly 3 between a printed circuit board 4 and cover 7. The acoustic damping shield assembly includes an acoustic barrier layer 202 placed in between absorption layers 200 and 201. As shown, the adhesive means 204 adheres the absorption layers 200 and 201 to the acoustic barrier layer 202 not the printed circuit board 4. Col. 3, lines 42-46.

Ojeda teaches that layers 200, 201, 202 of the acoustic damping shield assembly 3 are adhered by an adhesive such as glue. In contrast, the damping shield assembly 3 of Ojeda is connected to the printed circuit board 7 and cover via fasteners. In particular as disclosed in Ojeda, the damping shield assembly 3 includes at least one opening 6 adapted to allow passage of a fastener, such as a screw 5 connecting the bottom cover 7 to at least one of the printed circuit board assembly 4 and the head disc assembly 2. (col. 3, lines 4-7). Since the Office action fails to properly determine the scope and content of the prior art and ascertain the differences between the claimed invention and the prior art, the Office Action fails to set forth a *prima facie* basis to reject the claimed subject matter on the basis of the combination of Codilian and Ojeda. Based upon the foregoing, withdrawal of the rejection of claims 11-12 is respectfully requested.

Rejected claims 17 is dependent upon claim 13. Claim 13 as amended recites a base having a base portion having a thickness of about 0.3mm or less and at least one aperture, and a means for reinforcing the base portion to form a stiff support structure. Claim 13 as amended incorporates subject matter of claims 6 and 12. In the Office Action, claims 6 and 12

were rejected on the basis that it would have been obvious to have the base thickness of Codilian be between 0.2mm and 0.3mm since absent any criticality, ranges are generally achievable through routine optimization/experimentation. (Office Action, page 7, ¶ 9). As previously discussed, the question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) evidence of secondary considerations. With respect to claim 17, as set forth in Applicants' specification, the scope and content of the prior art includes a base having sufficient thickness for sufficient structural integrity. If the base plate is too thin, it will be unacceptably structurally weakened. (Applicant's specification, page 2, lines 10-12). Thus, the prior art teaches away from a base portion having a thickness of about 0.3mm or less because of the lack of structural support.

The claimed subject matter includes a base portion having a thickness of about 0.3mm or less in combination with a means for reinforcing the base portion to form a stiff support structure to provide a base plate that is sufficiently thin without sacrificing structural integrity. This is not obvious in view of the prior art which, teaches away from a thin base in favor of a base plate with sufficient thickness in order to support moving parts in a disc drive. (Applicant's specification, page 2, lines 8-16). Based upon the foregoing, reconsideration and allowance of claim 17 is respectfully considered.

Claims 3 and 9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Codilian, U.S. Patent No. 6,697,217 in view of Ojeda, U.S. Patent No. 6,958,884. Claim 9 is cancelled and claim 3 is dependent upon claim 1 which is allowable over the combination of Codilian and Ojeda for the reasons discussed with respect to claim 1 and claim 7.

Claims 21 and 23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Codilian, U.S. Patent No. 6,697,217 in view of Shirotori U.S. Patent No. 4,818,907. Claims 21 and 23 are dependent upon claims 7 and 13, respectively, and are allowable for the reasons discussed above.

New claim 25 is added. Favorable action with respect to new claim 25 is respectfully requested.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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